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ABSTRACT

This study investigates the effect of cooperative learning on students' self-perceptions. Areas explored include students' perceptions concerning their: (1) achievement, regardless of present achievement level; (2) personal worth; (3) friendship formation with different ethnic groups and sexes; and (4) enjoyment of school. Interviews were conducted with 28 students, who had extensive experience working in cooperative learning groups, from seven intermediate science classrooms in an urban school system. Subjects were videotaped while participating in a cooperative problem-solving lesson. Findings include the following: (1) students perceived their achievement positively, rating it high or average; (2) nearly two-thirds of the students rated their self-esteem as high; (3) white students, and particularly white females, felt positive about themselves when working in groups; (4) more than three-fourths of the students enjoyed working with everyone in the group; (5) students noted no preference for race or sex; (6) more than two-thirds of the students enjoyed school more when working in groups; and (7) the overall response of black students to group work was not as positive as that of white students. A list of 13 references is included. Statistical data are included on seven tables. (FMW)

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Students' Perceptions When Working in Cooperative Problem Solving Groups

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Abstract

The purpose of this study was to gather the reactions of students when working in cooperative learning groups. During the 1987-1988 school year, students from seven intermediate classrooms in an urban school system had extensive experience working in cooperative learning groups. In the spring of 1988 , 28 students from the seven classrooms were targeted for video taping. These students were grouped in a heterogeneous manner for race and sex while homogeneously grouped for ability. These subjects were taped while participating in a cooperative problem solving lesson, and interviewed to gather attitudes regarding cooperative learning groups. Their responses were classified and sub-classified into four main categories regarding their perceptions of 1) Achievement level; 2) Personal worth: 3) Formation of friendships with students of different ethnic groups and sexes ; and 4) Enjoyment of school. Responses in all four categories were overwhelmingly positive for the majority of students. Major findings concerning working in groups were: 1) Students perceived their achievement positively, rating it high or average. Males, regardless of achievement level, had a somewhat higher perception of their achievement than did females. 2) Nearly two-thirds of the students' self-esteem was positive while working in groups. Apparently a sizable number of white students and in particular white females feel positive about themselves when working in groups; 3) More than three-fourths of the students enjoyed working with everyone in the group. Patterns of overall cohesion emerged, since students noted no preference for race

or sex; 4) More than two-thirds of the students enjoyed school more when working in groups. Overall, the black student response to enjoyment of school when working in groups was not as positive as for white students.

Cooperative Learning

The purpose of this study was to investigate whether cooperative learning affected students' perceptions concerning their achievement, regardless of present achievement level; their personal worth; their formation of friendships of different ethnic groups and sexes; and their enjoyment of school. Differences in all students' perceptions as well as differences in perceptions due to sex and/or race were considered.

Research studies support a conclusion suggesting when cooperative learning takes place, students benefit academically as well as socially. Cooperative learning seems to enhance student attitudes toward achievement, self-esteem, formation of friendships among different ethnic groups, and enjoyment of school.

Achievement for students of different ability levels is affected by small group learning. Sharan et al. (1978) found cooperative learning can lead to superior achievement in higher level thinking. Slavin and Oickle (1981) found minority students gain even more than non-minority students as a consequence of learning cooperatively, thus reducing achievement disparity between blacks and whites.

Tjosvold and Santamiria (1978) report students who work in cooperative groups like and support each other, influence each other, and develop group cohesion. This in turn allows them to make decisions in a positive and enjoyable manner. A result from this experience in cooperative groups is students who feel better about themselves and

have more confidence in making classroom decisions.

Another result from cooperative learning experiences is the positive affect on racial attitude and behavior in both instructional and free time. Students in cooperative conditions are involved in cross ethnic giving and receiving of help (Johnson and Johnson, 1981). These experiences support the formation of cross racial friendships which break down barriers to the desire to supply help to each other (Slavin, 1979; DeVries, Edwards and Slavin, 1978). Students see each other in a more positive light and in order to form friendships based upon human qualities rather than skin color or accent (Slavin, 1987). Relationships between male and female students are more positive leading to intergroup relations which are strong and long lasting (Johnson, Scott, and Ramolae, 1985; Slavin, 1985). One positive result of this information is a belief of mandated desegregation may in actuality have the potential for success.

Method

Subjects

Students from seven intermediate classrooms in an urban school system served as subjects for this study. Four students from each classroom were targeted for video taping and interview. These students were organized heterogeneously into groups of four by race and sex. Simultaneously, they were placed in homogeneous groups by achievement in science based upon their percentage score on the Third Grade form of the California Achievement Test (See Appendix One). The grouping format resulted in two high achievement groups, three middle achievement groups and two low achievement groups. Four target groups were, for classroom organizational reasons, unable to follow the above

grouping guidelines precisely. Figure One depicts the grouping characteristics following student organization and placement while using the above criteria.

PLACE FIGURE 1 ABOUT HERE

Design

A qualitative research design was employed. The purpose of the approach was to discover and characterize the responses of the participants. The outcome is a detailed description of various responses. The attempt to gain an understanding of events from the participants' view has been referred to as the phenomenological or naturalistic tradition of social science research (Bogdan & Biklin, 1982). The interview technique was chosen in order for students to respond alone in a controlled environment. There was also assurance that every question in the interview would be answered (Bailey, 1978).

Procedures

The study was conduced by a research team made up of the seven classroom teachers of the subjects, an university science education professor, a university math education professor, and an inservice coordinator. A two-step procedure of video taping and interviewing was used to gather information. A video tape was made so the students could view themselves in a natural classroom setting, capturing the moment of the full lesson. This was done to encourage a more honest student reaction during the interview. Taping was done by members of the research team and an additional graduate assistant.

Prior to the the actual video taping session, each classroom was

desensitized to the presence of a video camera a total of four times. The entire class was scanned with a non-functioning video camera during a variety of thirty minute cooperative lessons. Non-functioning microphones were placed with each group whether the object or non object group. If students questioned the microphones, they were told the apparatus was controlled by a remote control switch from the camera. These techniques were done so the four students targeted for study would not be aware they were the focus of attention. The final video taping session consisted of the four target students as the object of video and audio concern. All target groups were video taped while participating in a thirty minute cooperative problem solving lessons.

All final taping was completed during the early afternoon. As the teacher gave instructions for the activity, the entire class was scanned. When students began the task, only the target group was taped. In every classroom all students were unaware of only one group being taped.

The video taped lesson, "Floating Clay Duel" (Appendix Two) was structured so each student had an equal chance for success in that content background, reading or spatial skills were not requirements. Additionally, this lesson did not assign cooperative or problem solving roles, so students had the freedom to structure their own participation.

The second phase of the procedure was to interview each student after he/she had viewed the video tape of his/her group. The purpose was to determine how students would react to personal and group participation following the cooperative learning lesson. The interview

questions were structured so the results could be categorized and sub-categorized. The questions, written by the members of the research team, were read by experts in the field of qualitative research and revised to their recommendations (Appendix Three). A set of ice-breaker questions were also designed and used by the research team in order to relax the students (Appendix Four).

The interviews were conducted in a quiet location with only the interviewer and student present. The thirty minute session was audio taped so the interviewer would not be required to write student responses for later analysis. The interview questions were used as a point of departure for encouraging responses with the interviewer asking for clarification or greater specificity when necessary. The interviewer attempted to keep the discussion focused without constricting responses.

The interviewers were teacher colleagues or other school volunteers. Training involved discussion of general procedures of the study, the interview questions, and the ice-breaker questions.

The entire procedure was piloted in order to determine appropriateness. The research team then met to view the pilot video, read the audio taped interviews and review the interview procedure in order to standardize the procedure.

Data Analysis

Data analysis consisted of categorizing and characterizing the interview data. First, paraphrasing of the audio tapes of interviews was done by two teachers working together in order to ensure an accurate interpretation of student comments. When an agreement could not be reached, the data was presented to the research team for

discussion. The paraphrased data was then grouped by response to interview question. Each question was labeled by teacher's initials and by student's race, sex and achievement level. Each question was then categorized and sub-categorized based upon the preassigned criteria. All responses were tallied by achievement levels. The process of categorization was conducted collectively by the research team.

The final compiled interview results were then compared to the individual responses of the subjects using a process termed "member checking". This involved members of the research team being asked to critique the results and recommend modifications to the draft of the written results.

Results

This study investigated whether cooperative learning had an effect on the perceptions of all students and whether there were differences in perceptions due to sex and/or race. Responses to the eight questions the students were asked were grouped into four categories.

1. The perception of achievement for all students, regardless of achievement level, as a result of a cooperative learning experience.
2. Student self perception of personal worth following a cooperative learning experience.
3. Friendship formation among and between ethnic groups and different sexes as a result of a cooperative learning experience.
4. Enjoyment of school following a cooperative learning experience.

Description of the various categories and sub-categories, related to the major theme follows. An outline of the categories and sub-categories is included in Appendix Five.

Perception of Achievement

To investigate whether cooperative learning had an effect on perceived achievement for all students, regardless of present achievement level, students were asked to rate their work and their help in the group activity. Table 1.1 summarizes the data related to student's self rating, when asked the question "How do you rate your work" while in the cooperative learning situation. Brief examples of student comments are included to add clarity.

PLACE TABLE 1.1 ABOUT HERE

1.1 Perception of Achievement Self Rating of Work Effort

Students were asked the question, "how do you rate your work in this activity; high, medium, or low?" A follow-up question, "why did you give yourself this rating" was also asked. Student responses resulted in fifty percent (50%) high rating, and fifty (50%) moderate rating. Students selecting a high work rating were made up of three (3) black males, three (3) black females, five (5) white males, and three (3) white females. Student reason for this rating were quite different. One student selected a high rating for his effort because he thought he did a disproportionate amount of the group work. Additionally, four students selected a high rating because they seemed to be most concerned with successfully accomplishing the task. The following is an example of a student comment who rated his effort as

high:

"I guess high. I do a lot of things. I talk and talk about the thing, not about other things. I stay on the subject. If you don't cooperate, you won't get anything done."

Three students selected the high rating category because they felt as if they had helped or behaved in an appropriate manner. An example of a student comment reflecting this attitude follows:

"I would rate myself high in the group. We were the first group that got a hundred paper clips in the clay without sinking."

Of the students who selected a moderate rating; four (4) were black males, four (4) were black females, two (2) were white males, and four (4) were white females. Reasons for this rated varied. Examples of student comments reflecting this selection are as follows:

"I'd rate my work medium. Others make me feel like I'm not doing a good job."

Another comment reflecting this position is:

"I'd rate my work medium, I helped with one thing, Sammy and Stephen helped with the clay. I worked with paper clips and the worksheets."

Still another student comment from this category is as follows:

"Rate myself medium because we could have done a better job. Everybody else made their boat float and we didn't"

From this study it is apparent achievement level does have an effect on student perception of achievement. Of those who rated their work as high, fifty-four (54%) percent were from the high achieving group, forty six (46%) percent represented the middle

achievers. Conversely, of those rating themselves in the middle, twenty-three (23%) represented the middle achievers while fifty four (54%) were from the low achieving student population.

All students viewed their achievement while in the group as either high or medium. More males (8) than females (6) and more white students (8) than black students (6) make up this group.

1.2 Perception of Achievement Self Rating of Help Within Group

Students were asked the question, "Did you help your group solve the problem? How did you help?" Possible answers were drawn from the following categories: My help was important; My help was like others in my group; My help did not matter. Table 1.2 summarizes the data drawn student comments from these questions.

PLACE TABLE 1.2 ABOUT HERE

From inspection of table 1.2 it is apparent sixty four (64%) percent reported their help to be important, thirty two (32%) reflected group help like others of their group, while one student (4%) reported his help to not matter. From further inspection of Table Four additional information may be gleaned. From the group who rated themselves as important contributors, six (6) were black males, three (3) were black females, five (5) were white males, and four (4) were white females.

An example of a student comment reflecting this position is below:

> "Every time when it came to be my turn to get out the holes in the boat, I would try to take out the holes and make sure there were not holes. If there were any holes left, I would

give it to the next person and tell them what to do"

The group of students rating their help as "like others within the group" was made up of one black male, three (3) black females, two (2) white males, and three (3) white females. Student comments reflecting this position are as follows:

"I'd say my help was okay, it was like all the others in my group, neither good or bad, just okay."

Only one student, a black female, reported her help as not important to the group. Her response to question number two (1.2) is as follows:

"I helped the group solve the problem. I read over the worksheet. I'd rate that my help didn't matter. They didn't listen anyway."

From this study, apparently student achievement level was not a variable of high effect relative to perceived level of contribution within the group. Of those six black males who rated their help as important to the group, three had a high achievement level, one a moderate level and two of these black students had a low level of achievement within the classroom. The following is an example of student response from both a high achiever and a low achiever reflecting perceived level of contribution within the group:

<u>High Achiever</u>: "Yes, (my help was) important. I helped figure out the problem. We were all getting mixed up."

<u>Low Achiever</u>: "I helped the group solve problems. I made the boat. My help was important."

Additionally, more male students (11) rated the work effort as high than did female (7) students reflecting a possible sex effect in

perceived importance of personal help within a group. This effect will be further investigated in future research efforts by the team involved.

1.3 Perception of Achievement Self Rating Participation in Problem Solving

Subjects were asked to rate their own and the members of the group in terms of individual participation. In order to do this they were asked the following questions: "Who helped the most within the group? Who helped the least within the group?" Table 1.3 summarizes the data from these questions.

PLACE TABLE 1.3 ABOUT HERE

From inspection of Table 1.3 it is evident twenty eight (28%) of the subjects responded with "everyone in the group worked the most." No individual within the group was identified as most involved. Thirty six (36%) percent of the students also thought of no one who had worked the least within the group. These individuals felt as if everyone had worked within the group in a contributory manner.

From the group of subjects who did respond with an individual who worked the most within the group twenty-four individuals were identified. This particular population was made up of six (6) black males, six (6) black females, seven (7) white males, and four (4) white females. White females within this sample of subjects seemed to perceive themselves or be perceived by others as participating somewhat less within the group than other identified groups.

From the group of subjects who did respond with an individual who

worked the least within the group seventeen individuals were identified. This group was made up of four (4) black males, two (2) black females, six (6) white males, and, five (5) white females. There were fewer complaints aimed toward black students (6) especially black females as opposed to the white students (11) within the cooperative groups. From further inspection of the data it became apparent there was no predictive effect when student achievement level was considered. Students in all achievement levels were identified in all categories of contributory effort from most help to least help. It would appear as if something other than student achievement level is influencing level of contributory effort within the group.

Perception of Self Worth When Working in Cooperative Groups

In addition to individual student ratings of other's efforts within a cooperative situation, subjects were asked to rate their own feelings, or self-esteem, during this cooperative learning experience. Information about student's self-esteem when working in groups was taken from questions which considered how students felt about themselves as the activity was on-going and following a viewing of the video tape.

2.1 Rating of Self Perception of Personal Worth

Subjects were questioned "Did working in the group make you feel better, about the same, or worse about yourself? Results from this question are summarized in Table 2.1.

PLACE TABLE 2.1 ABOUT HERE

From inspection of Table 2.1 it is clear that sixty-four (64%) of

the students reported they felt better when working in groups, twenty-two (22%) felt the same, while fourteen (14%) felt worse. From the group of sixty-four percent who felt better, three (3) were black males, three (3) were black females, five (5) were white males and seven (7) were white females. Apparently white females report their efforts were not as valuable as others, however, they feel better about themselves when working within a cooperative structure.

The following are examples of students who responded to this particular question. One student answered,

> "(I feel) better. Because sometimes I know I won't do it right on my own, but in a group, you do it and you get it right."

Another student reported,

> "I feel better about myself after working in groups. You can talk about what you are doing. If you don't know something and someone else does, you know lots of other things and others don't. You can tell the answer. You get smarter."

The twenty-two (22%) percent who made up the group which reported they felt the same after working in cooperative groups was made up of four (4) black males, three (3) black females, two (2) white males and, zero (0) white females. This data indicate more blacks feel the same about themselves after working in groups. No real reasons for this response were given only the following student comment:

> "I just feel the same"

Additionally, one student, a black female reported her feelings as

negative as a result of cooperative problem solving. Her reply to the question was:

"Working in a group makes me feel worse."

There is no apparent relationship between achievement level and reported feelings of self-esteem following a cooperative problem solving experience. Students from all achievement levels responded with equal representation at all levels, with one exception; the single student who responded in a negative fashion regarding self esteem as a result of cooperative problem solving was a low achiever.

Apparently more white students (12) than black students (6) experienced self esteem enhancements when working in cooperative groups. More than any other group, white females seem to experience positive feelings when working in these groups. Rather than individual inferiority relating to worth of contribution reflected by previous questions, group work appears to enhance self esteem within this particular group.

2.2 Rating of Self Perception of Personal Worth

Subjects were asked to respond to the following question: "Explain what you are thinking about yourself right here?" These subjects were asked to respond to how they felt about themselves during particular scenes on the video tape. Table 2.2 summarizes the data reported by students from this question.

PLACE TABLE 2.2 ABOUT HERE

Thirty-six (36%) percent of the subjects responded in terms of the task rather than a personal feeling regarding their self-worth.

Apparently these individuals were concentrating on completing the task as opposed to a consideration of worth of personal contribution to the group effort. Thirty-two (32%) percent reported seeing themselves in a positive light while working on this cooperative effort; and thirty-two (32%) reported a negative feeling of personal worth after viewing the tape.

The group reporting themselves positively was composed of one (1) black male, one (1) black female, four (4) white males, and three (3) white females. Apparently, when examining results from this sample, race appears to be an important predictor for self perception during a cooperative group effort as black students tended to respond negatively while white students as a group were more positive in how they viewed their contributions. An example of this behavior is reflected by the comment from a white female when asked to respond to this question regarding self worth:

> "I was thinking about how they were making the clay. It had cracks in it and I was about to mention that I knew that if they put it in there, the water would go through the crack and it would sink."

One white male saw himself a leader when he responded:

> "It was fun to be a leader."

This same race pattern related to perception of self worth emerged among the thirty-two (32%) percent who responded negatively after viewing the tape of the cooperative problem solving experience. The individuals making up this group consisted of three (3) black males, three (3) black females, two (2) white males and one (1) white female. More black students perceived themselves negatively than white

students. An example of this negative perception is reflected in the following comment from a black male who participated in this study:

"I was thinking that I didn't work hard enough."

As reported above, positive perception of self worth seems to be related to race, it becomes apparent negative self perceptions may also be related to this racial factor. Data derived from this particular sample appear to suggest white students perceive themselves more positively than do black students.

3.0 Rating of Personal Acceptance of Other Group Members

Subjects were asked to respond to the following question: "Did you enjoy working with all, some, or none of the people in your group? Why, or Why not? Table 3.0 summarizes the data derived from responses of the subjects to this particular question.

PLACE TABLE 3.0 ABOUT HERE

The vast majority (79%) of the students reported an enjoyment from working with all members of their group. Twenty-one (21%) percent reported an enjoyment of some of the students while no one was opposed to all members of the cooperative group. The 79% majority was composed of six (6) black males, five (5) black females, six (6) white males, and five (5) white females. Apparently enjoyment of group membership is not a factor of race as racial make up of the majority is relatively comparable. An example of a comment from a student representing this majority is as follows:

"(I enjoyed) All. They're my friends."

Another example representative of this group was:

"(I enjoyed) All. I liked working with all the people in my group, because most all of them sometime this year learned how to cooperate."

Additionally, one student responded:

"I enjoyed working with all the people in the group. It would be lonely without the group . . . even Angela's mouth and Stephen's picky hands and Amanda doing nothing. It would be boring alone."

The students appear to present an overall feeling of group cohesion, as a feeling of teamwork begins to become evident. Apparently, children from this population enjoy being members and also enjoy the members of the group.

However, there were students (twenty-one percent) who enjoyed only some of the members of the group from which they were assigned. Most complaints were directed toward students who did not contribute or were off task. There was no clear racial factor in the direction of these negative remarks. A comment which is an example of this group is as follows:

"I enjoyed working with all the people in this group except for Eirini sometimes. She didn't do anything but drop the paper clips in."

Another student from this group responded:

"Some were off task. Sammy was asking me about my basketball goal and stuff. Angela wasn't being helpful to the group because she was telling us what to do, and she was supposed to be doing something else."

As the majority of the students responding to this particular question

respond positively to all members of their group, it would appear as if a positive group membership feeling and effort is being developed. From this particular sample one may conclude group membership appears to be leading to positive social experiences for most children.

4.0 Rating of Personal Attitude Toward School

Students were asked to respond to questions dealing with their enjoyment of school and classroom activities when working within cooperative groups. The question which was asked was as follows: Do you like school more, less, or the same when you get to work in groups? Why? Table 4.0 summarizes the data derived from student responses from this question.

PLACE TABLE 4.0 ABOUT HERE

Table nine reveals sixty-eight (68%) percent of the subjects participating in the cooperative group experience enjoyed school more as a result of this experience. Twenty-nine (29%) were not favorable or unfavorably affected as indicative of the response suggesting they liked it the same as always, and three (3%) reported a negative feeling reflecting a lesser enjoyment of school as a result of this cooperative group effort.

The group which enjoyed school more as a result of cooperation was made up of two (2) black males, four (4) black females, seven (7) white males, and six (6) white females. From inspection of the data it is clear more white students seemed to enjoy school activities as a result of cooperation as opposed to black students. Reasons for this enjoyment were varied with no clear pattern of response emerging. Five

students did report school being more "fun" as a result of this group work. An example of a student response which represents this group is as follows:

> "I like school more in groups because, in groups, you get to do more different things. You can do experiments and stuff and you don't get to do otherwise."

Three students felt as if they could learn more and as a result of this they reported a positive feeling toward school and the activities associated with it. One white male representing this group reported;

> "You can get done faster in groups. People in your group might teach you something you didn't know."

Additionally, nine students reported their enjoyment of school as being related to the sharing and helping which are components of a group cooperative effort. The following are examples of two students reflective of this group:

> "I like school a little more when working in groups. You don't have to worry that you're the only one that's getting along. Someone is helping. They do it too!"

The second student said;

> "(I) like school more. You help others, they help you. You don't feel like you can't do it (when others are helping)."

Additionally, two students responded;

> "I like working in school this way because it's easier, I like school more. Hardly get a chance to go out and play so I like working in groups."

The twenty-nine (29%) percent representing the group which enjoyed

school about the same regardless of group work were composed of four (4) black males, three (3) black females, zero (0) white males and one (1) white female. One of the black males responded;

> "I like school about the same when working in groups. It depends on who is working in my group. If I don't like the people working in my group, I don't like working in groups."

Another black male reported;

> "(I like school about the) same, because I like to work alone, too, sometimes."

The single student whom reported a lack of enjoyment of group work was a black male. He reported;

> "I like school less. I like to do things on my own."

Student achievement level appears to have little effect when predicting student enjoyment of school and school type activities following a cooperative group activity as students from all achievement levels responded equally in two of the three response categories: Enjoyed school more; and Enjoyed school about the same. Apparently more children's attitudes toward school are either positively affected or not affected when working in cooperative groups. There does seem to be a racial pattern when examining attitude toward school following a group experience. More than twice as many white students (13) reported they enjoyed school more as a result of cooperation as did black students (6). Sex of the respondent did not appear to have predictive power as male and female representative samples were relatively equal when considered as a group.

More than 67% reported enhanced school enjoyment when working in

groups. An important finding form this investigation would be related to students who seem to see school to be a more enjoyable place when working in a situation which allows them to be somewhat social while accomplishing the intellectual requirements of an assigned task. Additionally, it is important to note, black students seem to enjoy school somewhat less than do white students based upon their response patterns.

Discussion

This study investigated the cooperation learning effects on student perception in general and whether there were differences in these perceptions when race and sex were also considered. The results derived from an analysis of student comments indicate the majority of student perceptions were positive toward cooperative groups and school in general following exposure to these groups. The findings support the premise; most students perceive a benefit, both socially and academically, when working in cooperative learning groups. Evidently, the students thought there were many means for achieving success when asked to complete a task when in a group aside from simply knowing the answer. Several student comments supported their contribution in different modes, for example helping manipulate the equipment or concern for group achievement as well as leading the group toward the most appropriate solution. In addition to feeling as if their contributions were valued, students reported a variety of reasons for enjoyment of the group work itself. These reasons include liking to share, easier method for solving a problem, and an enhancement of enjoyment suggesting this kind of activity is "just plain more fun."

The results revealed several different patterns of perception when

race and sex were considered. When asked to rate their work and help within the group, males had a sightly higher perception of their work than did the females.

Self perception of personal worth resulting from group work revealed white females, regardless of achievement level, felt better about themselves when working in groups as opposed to working alone. They may have felt better because group work may build on their areas of strength, such as language or social skill. White females may have felt as if they need the support of the group in order to achieve.

There seems to be a sizeable difference between positive responses to students' perception relative to self esteem or feelings of personal worth. Black students were not as positive as white students in their response pattern. Teachers need to encourage the success of both white females and black students. These students may be able to learn to meet more success if they are trained to accurately evaluate their performance. This is not to suggest white males should not be encouraged to do their best, however, apparently during this study at least, white males seem to be sure of their work effort and their personal worth. The same may not be said for white females and black students.

Results suggested a greater number of white than black students seemed to enjoy school more when working in groups. Keeping in mind students bring varied experiences to these groups, teachers need to provide group situations which will enhance the students' social as well as academic behaviors. Teachers should develop students' self confidence by assigning roles within the group which build upon these strengths thus ensuring success. When students are beginning to feel

more self assured in the group, assignment of roles which will strengthen areas of weaknesses becomes important. In addition, an important consideration is the management of group size for the accomplishment of preassigned goals. Group size must be manageable in that all members of the group should have an opportunity to feel successful and important.

Students noted no preference for race or sex when asked who they enjoyed working with in the group. Since more than 75% of the subjects reported they enjoyed working with everyone in their group this is an indication of of positive regard toward group efforts and the social gains resulting. Some students said they enjoyed working with others because they were friends. Since placement in the groups was structured by the teacher, not the students, it would be interesting to not if these friendships influenced other findings such as school enjoyment, and perception of contribution. Additionally, it may be of interest to not whether teacher selection of cooperative group membership has any effect on enhancement of new friendships.

Summary

The components of cooperative learning take time to develop. Social institutions have reinforced the individual rather than the group. At home, students are often taught not to trust the group, but to stick up for themselves. At school, students are often told to do their own work and not to share their answers with others. This sense of individualism carries over to group work. In addition, students often spend more time listening than talking leading to receptive rather than productive learning. Often, home life involves listening to television while school involves listening to the teacher. Language

skills are often given little attention or importance. As a result of the above factors teachers should consider cooperative groups need time to develop and mature before students can learn and practice skills demanded by this teaching and learning strategy. Patience must be a watchword for those interested in involving children in a cooperative learning situation. As children become more adept at using cooperative learning as a method for solving relevant problems, teachers may expect to see students who enjoy school more and feel better about themselves in the process.

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Table 1.1
Perception of Achievement--How Do You Rate Your Work?

High				Medium				Low			
Blk		Wht		Blk		Wht		Blk		Wht	
6		8		8		6		0		0	
M	F	M	F	M	F	M	F	M	F	M	F
3	5	5	3	4	4	2	4				

Table 1.2
Perception of Achievement--Did You Help the Group Solve the Problem?
How Did You Rate Your Help?

High				Medium				Low			
Blk		Wht		Blk		Wht		Blk		Wht	
9		9		4		5		1			
M	F	M	F	M	F	M	F	M	F	M	F
6	3	5	4	1	3	2	3	1			

Table 1.3
Perception of Achievement--Who Helped the Most in Solving the Problem?
Who Helped the Least?

	Helped Most				Helped Least			
Everyone	8							
No One					10			
	Blk		Wht		Blk		Wht	
Students	12		11		6		11	
Named	M	F	M	F	M	F	M	F
	6	6	7	4	4	2	6	5

Table 2.1
Perception of Personal Worth--Did Working in Groups Make You Feel Better, About the Same, or Worse?

Better		Same		Worse	
Blk	Wht	Blk	Wht	Blk	Wht
6	12	7	2	1	
M|F	M|F	M|F	M|F	M|F	M|F
3|3	5|7	4|3	2|0	|1	| |

Table 2.2
Perception of Personal Worth--Explain What You are Thinking About Yourself Right Here.

Positive		Negative	
9		9	
Blk	Wht	Blk	Wht
2	7	6	3
M|F	M|F	M|F	M|F
1|1	4|3	3|3	2|1

* 10 students misinterpreted the question.

Table 3
Rating of Personal Acceptance of Other Group Members--Did You Enjoy Working With All, Some or None of the People in Your Group?

All		Some		None	
Blk	Wht	Blk	Wht	Blk	Wht
1|1	1|1	3	3		
M|F	M|F	M|F	M|F	M|F	M|F
6|5	6|5	1|2	1|2	|	| |

Table 4

Rating of Personal Attitude Toward School Activities--Do You Like School More, The Same, or Less When Working in Groups?

More				Same				Less			
Blk		Wht		Blk		Wht		Blk		Wht	
6		13		7		1		1			
M	F	M	F	M	F	M	F	M	F	M	F
2	4	7	6	4	3		1	1			